CEBM003702

Shop Manual

KOMATSU®

avance LOADER

WA900-3LC

WHEEL LOADER

SERIAL NUMBERS **WA900-3LC** **A50001** and UP

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❍	New page to be added	Add
●	Page to be replaced	Replace
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An antifreeze concentration greater than 68% will adversely affect freeze protection and heat transfer rates. Antifreeze concentrations between 68 and 100% actually have a higher freezing point than a 68% antifreeze concentration and should not be used due to reduced heat transfer rates.

Ethylene glycol, low silicate antifreeze is recommended. The antifreeze should contain no more than 0.1% anhydrous alkali metasilicate. Low silicate antifreeze is recommended to avoid the formation of silica-gel (hydro-gel). This gel formation can occur when the cooling system contains an over concentration of high silicate antifreeze and/or supplemental coolant additive. DO NOT use methanol or alcohol, which has an unacceptably low boiling point.

Antifreeze may retain its freeze protection for more than one season but coolant conditioners must be added to maintain corrosion protection.

Antifreeze formulated with methoxy propanol, or propylene glycol, is not recommended for this system.

NOTICE:

Do not mix types of antifreeze solutions. Mixed solutions make it impossible to determine the protection against freezing. Antifreeze containing sealer or anti-leak additives should NOT be used in this system. Sealer or anti-leak additives will cause plugging problems in the cooling system.

WARNING

Use extreme caution when adding coolant to a hot radiator to avoid being burned. Wear gloves and goggles and keep face away from the filler neck.

Check the solution periodically and at normal operating temperature, to be sure the cooling system has sufficient protection against freezing. An antifreeze concentration greater than 68% will adversely affect antifreeze protection and heat transfer rates. Antifreeze concentrations between 68% and 100% actually have a higher freezing points than a 68% antifreeze concentration as well as reduced heat transfer rates and should not be used.

REMARK:

Do not use a 100% antifreeze solution for freezing protection. This will cause severe corrosion in the cooling system and if not detected will cause radiator and oil cooler core damage. Use a water/antifreeze solution as described in the following table.

The following table shows the approximate percentage of antifreeze solution required for various temperatures.

Approximate Freezing Point	Percentage of Antifreeze Concentration by Volume	Specific Gravity at 16°C (60°F)
0°C (+32°F)	0	1.000
-7°C (+20°F)	15	1.025
-12°C (+10°F)	25	1.040
-18°C (0°F)	33	1.053
-23°C (-10°F)	40	1.062
-29°C (-20°F)	45	1.070
-34°C (-30°F)	48	1.074
-40°C (-40°F)	53	1.080
-46°C (-50°F)	56	1.083
-51°C (-60°F)	59	1.088
-57°C (-70°F)	62	1.092
-62°C (-80°F)	65	1.095
-68°C (-90°F)	67	1.097
-69°C (-92°F)	68	1.098

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See Foldout 10-169. This page can be replaced with Foldout 10-169, Electric circuit diagram part 1 (sheet 5), found in Section 90 of this manual.

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METHOD OF USING TROUBLESHOOTING CHARTS

1. Category of troubleshooting code number

Troubleshooting code No.	Component
S-OO	Troubleshooting of engine system
T-OO	Troubleshooting of transmission controller system
M-OO	Troubleshooting of main monitor system
K-OO	Troubleshooting of maintenance monitor system
E-OO	Troubleshooting of electrical system
H-OO	Troubleshooting of hydraulic, mechanical system
J-OO	Troubleshooting of joystick steering controller system

2. Method of using troubleshooting table

① Troubleshooting code number and problem
The top left of the troubleshooting chart gives the troubleshooting code number and the problem with the machine.

② General precautions
When using the troubleshooting chart, precautions that apply to all items are given at the top of the page and marked with ★.
The precautions marked ★ are not given in the □, but must always be followed when carrying out the checks inside the box

③ Distinguishing conditions
Even with the same problem, the method of troubleshooting may differ according to the model, component, or problem. In such cases, the troubleshooting chart is further divided into sections marked with small letters (for example, a), b)), so go to the appropriate section to carry out trouble shooting.
If the troubleshooting table is not divided into sections, start troubleshooting from the first check item.

④ Method of following troubleshooting chart

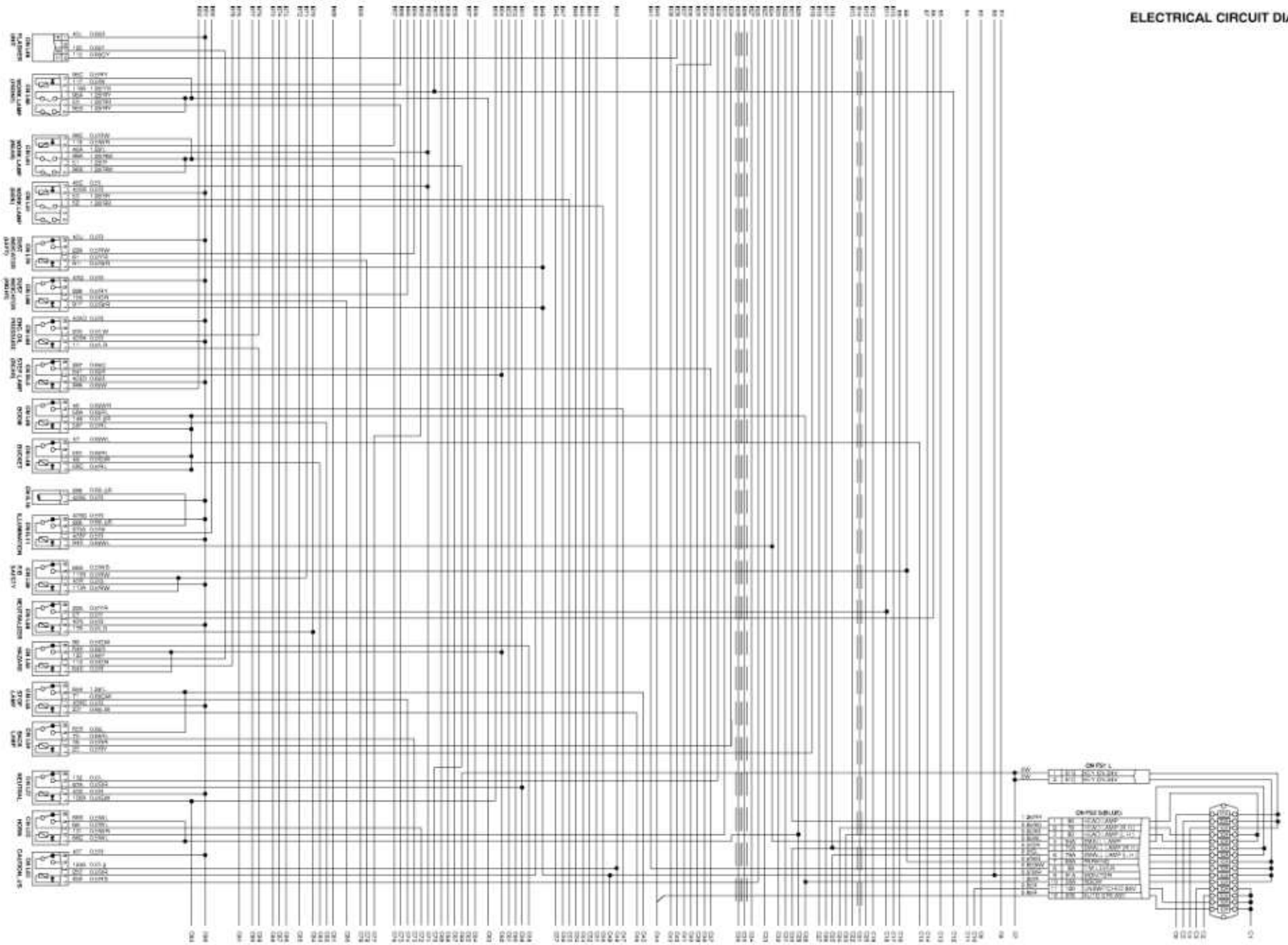
- Check or measure the item inside □—(YES / NO), and according to the following answer either the YES line or the NO line to go to the next □. (Note: the number written at the top right corner of the □ is an index number; it does not indicate the order to follow.)
- Following the YES or NO lines according to the results of the check or measurement will lead finally to the Cause column. Check the cause and take the action given in the Remedy column on the right.
- Below the □ there are the methods for inspection or measurement, and the judgement values. If the judgement values below the □ are correct or the answer to th equestion inside the □ is YES, follow the YES line; if the judgement value is not correct, or the answer to the question is NO, follow the NO line.
- Below the □ is given the preparatory work needed for inspectioin and measurement, and hte judgement values. If this preparatory work is neglected , or the method of operation or handling is mistaken, there is danger that it may cause mistaken judgement, or the equipment may be damaged.Therefore, before starting inspection or measurement, always read the instructions carefully, and start the work in order from item 1).

⑤ Troubleshooting tools
When carrying out troubleshooting, prepare the necessary troubleshooting tools. For details, see TOOLS FOR TESTING, ADJUSTING, AND TROUBLESHOOTING.

⑥ Installation position, pin number
A diagram or chart is given for the connector type, installation position, and connector pin number connection. When carrying out troubleshooting, see this chart for details of the connector pin number and the location for inspection and measurement of the wiring connector number appearing in the troubleshooting flow chart.

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ELECTRICAL CIRCUIT DIAGRAM (1 OF 2)
SHEET 3 OF 6



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